

ABSTRACT

PERFORMANCE ANALYSIS OF SUGAR AGROINDUSTRY WASTEWATER TREATMENT PLANT ON PT. GUNUNG MADU PLANTATION

by

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The Objectives of this research are to know the performance of sugar agroindustry wastewater treatment plant (WWTP), to determine factors that influence WWTP performance, and to find alternative treatment which can increase its performance. This research use description method. Tables and graphics from observation, laboratory testing and analysis are being represented, analyzed, and descriptively explained. This research was conducted by case study on PT. Gunung Madu Plantation Waste Water Treatment Plant. The result of this research showed that wastewater influent characteristics influence performance of WWTP. Analysis of COD removal on equalization, anaerobic, facultative, and aerobic pond represents that the highest average COD removal was 66% with 10 days retention time, it was on equalization pond in the year of 2008. The highest COD removal on anaerobic pond was 58% with 21 days retention time, it was on 2008. The highest average COD removal on facultative pond was 74% with 33 days retention time, it was on 2007. The COD removal on aerobic pond was 24,75% with 17 days retention time, it was on 2009. Factors influencing WWTP performance were waste water concentration when there were no production activity that produced liquid waste, including waste water from dewatering bagasse and chemical cleaning. The efforts that are necessary to be done in order to increase WWTP performance are to do control activity of dewatering bagasse and chemical cleaning of liquid waste and to control the possibility of eutrophication on aerobic pond.

Key words : performance, COD removal, retention time, WWTP pond.